1985

Two Views of Sex Differences in Socialization

Patricia Draper
University of Nebraska - Lincoln, pdraper1@unl.edu

Published in MALE-FEMALE DIFFERENCES: A BIO-CULTURAL PERSPECTIVE, Edited by Roberta L. Hall (New York, et al.: Praeger, 1985), pp. 5-25.

2

TWO VIEWS OF SEX DIFFERENCES IN SOCIALIZATION

Patricia Draper

The literature on the socialization of human sex differences is likely to remind many students of the parable about the blind men who were grouped around an elephant, each trying to describe to the others what the elephant was like. Several traditions of research in the social sciences have been involved in the study of why the sexes are different. One that emphasizes deliberate sex role training of children owes most of its insights to learning theory and developmental psychology. It regards sex role socialization as the result of interplay between the environmental experience and the child's active learning and imitation. Researchers see the child as one who learns what is being taught and who forms certain evaluations of what is correct or expedient on the basis of experience (Mussen 1973; Maccoby and Jacklin 1974). Unlike the prepared learning tradition, which will be discussed below, systematic consideration is not given to the possibility that girls and boys, *because of* biological sex, will respond differently to the tasks of socialization.

The prepared learning tradition takes as a beginning assump tion that girls and boys are born with inherent predispositions to behave in distinctive ways. This tradition accepts the role of learning as necessary for development but assumes that with respect to certain classes of stimuli girls and boys will respond differently. A person who takes this view of sex role socialization will be equally interested in "what children are taught" and "what children choose to learn."

This chapter introduces the reader to findings from these two contrasting approaches and considers the value as well as the limits of each. The discussion will take up a few studies that are good examples of each tradition, but will not attempt a comprehensive review. General features will be presented along with an examination of the differing insights that come from the two approaches. Finally, necessary further information and research will be discussed.

MODEL 1: DELIBERATE SEX ROLE TRAINING OF CHILDREN

According to this way of thinking, girls and boys behave differently because they are reared differently. Parents and adults of human societies everywhere understand that girls and boys will fulfill different social and economic roles, and in anticipation of that fact they put them on different socialization tracks. Children acquire different skills and attitudes owing in part to specific differences in their indoctrination but also because their experiences are different (D'Andrade 1966). An example here would be the common cross-cultural finding that girls receive stronger respon - sibility training than do boys (Barry et al. 1957; Whiting and Whiting 1975). The typical socialization of girls results from the fact they remain close to their mothers and the nature of women's work is such that girls can be incorporated into it at early ages. For example, in most societies women work close to home and do work that can be interrupted and broken into small components that children can master (Brown 1973). Therefore, mothers can simultaneously care for children and, in the case of girls, can instruct them in the skills that they will need as they get older.

Boys are likely to be passed over for responsibility training in early childhood because their adult roles do not require that they learn female role skills. Their mothers tend to their needs but do not expect boys to learn responsibility and obedience to the same degree as girls of the same age. [See Romney and Romney (1965) and Minturn and Lambert (1964) for good ethnographic examples of this aspect of sex role socialization.] Further, the nature of the work typically done by men is such that fathers cannot simultaneously do that work, care for dependents, and instruct the boys (Murdock 1949). Men's work is such that children cannot and should not participate; in many societies, for example, men travel far from home and do dangerous or physically rigorous kinds of work.

Much of this reasoning derives from the study of sex roles in nontechnological societies on which anthropologists have focused almost exclusively until recent years. Among cultures supported by agricul ture and/or animal husbandry, differences in sex roles are especially marked. In the case of food producers, families live in large domestic groups (often called "extended families") with larger membership than the nuclear family groups found in foraging societies. In the extended families, senior men and women are in charge of the work of younger, same-sex relatives. This results in a type of domestic labor that is more highly organized and more hierarchical in form. It also entails segregation of the sexes in many aspects of daily life: Work roles are segregated and eating and leisure activities are often done with same-sex individuals.

By contrast, in technologically simpler hunting and gathering societies, this is less likely to be the situation. This is not to say that cultural values regarding differences between the sexes do not exist, nor that functional differences in the work roles of the sexes do not exist. Rather, because hunter-gatherers must remain mobile and at low population densities so as not to exhaust the supply of wild foods, there is an advantage to having the smaller nuclear family be the basic domestic unit. When conditions require, groups as small as one or two nuclear families detach themselves from the larger band and live apart. Under these conditions, men and women must share much in the way of common knowledge, skills, and decision-making ability. Thus, the size of the functioning economic unit may determine the degree of labor specialization — including the degree of sex differences in labor and other activities.

SOCIAL AND ECOLOGICAL INFLUENCES ON SEX ROLE SOCIALIZATION

By paying attention to the social and economic arrangements in the society of which children are a part, one can see that some cultures are likely to maximize the socialization differences between the sexes, while others do not.

Group size and economy are basic aspects of social life that can set a stage for small or great sex role differentiation between children. Bush - man children of the !Kung tribe, hunter-gatherers living in the Kalahari

Desert of Southern Africa, receive very little in the way of explicit cultural messages about how girls and boys should do different things. This "lack" is related to both group size and economy. The living groups have about 35 to 40 people and only a small portion of the total are children. In consequence, girls and boys grow up playing in a multiaged peer group of both sexes. Neither sex has an opportunity to play only with same-sex peers, and in the absence of "segregated facilities" there is no opportunity for either sex to engage in stereotypic boy or girl kinds of play (Draper 1976). The idea that same-sex peers play an important part in sex role socialization finds support in various studies of Western children (see Fagot and Patterson 1969; Arganian 1973). Studies of Western children's risk taking are relevant here (Slovic 1966; Ginsburg and Miller 1982). Boys have been found more willing to take risks both in experimental and in natural settings, and it is typically reported that boys prefer to play with peers (preferably same-sex peers) more than girls. The greater opportunity to play with peers (because boys are not put to work) can intensify rivalrous and competitive behavior in boys more than in girls, who have fewer occasions to test themselves against same-sex, same-age playmates.

However, the nature of the economy and the kinds of work that hunter-gatherer adults do exempt girls and boys from being tracked at early ages into sex-differentiated kinds of jobs. Both women and men travel far on foot in the course of gathering vegetable foods and tracking game animals. The adults cover many miles, often crossing areas without drinking water, and they discourage children from accompanying them, knowing that they would slow the work. Girls and boys both stay at the group's base camp under the supervision of other adults who are not working on a given day. All children enjoy a leisured childhood; girls and boys do equally little work.

This brief illustration shows how the circumstances in which children are reared constitute a socialization pressure in and of itself. This occurs regardless of whether adults put an explicit value on their children's socialization in sex roles.

Examples of societies in which girls and boys receive sex-differentiated training and experience are much more common. This is particularly true of the so-called "middle range" tribal so cieties in which food collecting has been replaced by food producing and surplus accumulation. Along with these economic innovations go institutional changes such as sedentism, increased population density, increased fertility, more numerous subsistence sources and more time-consuming

subsistence work, greater sex role specialization, and increased willingness to enlist children into economically useful work.

Societies that derive a large proportion of subsistence from domestic animals provide good examples of the influence of this type of economic progress on the sex role socialization of children. In all such societies, the primary responsibility for the management and defense of herds falls to men. It is boys and not girls who in their middle childhood years begin practicing games and skills that will ultimately make them more successful as herders (and as raiders of the herds belonging to rival groups). Many of the games stress physical prowess, endurance, hand-to-hand combat skills, bluff, and intimidation. Girls in these societies will not undergo this type of anticipatory socialization and one expects (and finds) that female behavior is considerably more muted than the flamboyant style of the men (Edgerton 1971).

An ethnographic description of the Fulani herders of Sub-Saharan Africa provides an apt illustration:

> At about six years of age the boys begin daily herding with their older brothers or fathers. At this time they are encouraged to begin to display aggressive dominance towards the mature bulls and oxen. We were told that initially the boys are often afraid of the bulls. Nonetheless, they are obliged to discipline these animals by charging them or hitting them with herding sticks. Boys who refuse to beat cattle on instruction are usually considered cowards, threatened, and even beaten if they still refuse. After they become accustomed to disciplining cattle, boys often initiate beating without encouragement. Several times at the beginning of a herding day we observed such young herders approaching the dominant bull or ox and hitting him several hard blows with a herding stick. Although the social code apparently discourages such "undeserved" punishment of cattle, these beatings were generally ignored by the older men. . . . The cultural ideal of the fearless, aggressive, dominant personality is fostered by the consistent, and strongly reinforced expectation of all those with whom the boy comes into contact. (Lott and Hart 1977, pp. 181-82)

These arguments suggest reasons for customary sex role allocations and specify the consequences of this sexual division of labor for child socialization. In so doing, they point to the existence of social arrangements that are exterior to the child and prior to his/her existence. Children grow up in a particular social milieu and learn skills that are necessary if they are to join the larger adult society. Depending on the

local situation, children may or may not be treated differently primarily because of their sex.

ACQUIRING A GENDER IDENTITY

Various factors besides economics enter into sex role socialization. These depend less on the institutional arrangements of the society into which a child is born and more upon the personal psychological and developmental characteristics of the child. Rather than conceiving the child as responding to the learning tasks provided by the society, it is important to recognize that the child also makes certain discriminations and evaluations among learning tasks. This view incorporates a certain reflexivity in which the child acquires information as a result of experiences but then stores and processes that information in unique ways. The result is behavior that is produced at a later time but that is not simply due to the fact that the child has "learned what he was taught" (Bandura 1977).

Cognitive psychologists have shown that as a child matures intellectually, he/she acquires the language labels and cognitive classification of other speakers. One of the most pervasive distinctions acquired relatively early in the child's life is the category of sex. Once children learn gender labels, they experiment with applying them. As they learn the rules for inclusion in the category "girl" or "boy," they begin to turn the rules on the self in a kind of internal conversation (Kohlberg 1966; Kohlberg and Zigler 1967; Falbo 1980). A boy, for example, reasons, "I'm a boy. Cowboys are boys too. All football players are boys. So I can be a cowboy or a football player. I can practice those roles until I grow up."

An important point that Kohlberg (1966) makes is that children contribute to their own sex role socialization in ways that are not deliberately taught, nor necessarily anticipated by adults. According to this point of view, the role models to which children are exposed can influence their sex role conceptions. For example, the model may deliberately instruct the child and reinforce certain behaviors. If the child sees the model as powerful or attractive, he/she imitates it and in highly active ways tries to incorporate many aspects of its behavior, often going well beyond what the model was consciously trying to convey.

Currently, a number of researchers have predicted that boys who live in households headed by women and lacking a father or other permanent

adult male suffer various deficits. Depending on the particular psychodynamic theories to which the researchers subscribe, predictions of deficits due to being reared "father absent" vary (Biller 1970, 1971, 1976; Lynn 1974; Lamb 1981). Earlier researchers believed the origins of homosexuality lie in these family dynamics (Green 1974), but there is no consensus on this topic among researchers in the 1980s (Meyer-Buhlberg 1980). However, some have suggested that father-absent boys will be effeminate as a result of imitating primarily female role models.

Still another set of theoretical and research papers has argued that certain types of "hypermasculine behavior" are a "reaction formation" against an underlying feminine sex role identity. The arguments developed in support of this hypothesis maintain that when boys grow up and contact the larger society, they realize they are expected to "act like boys." In attempting to satisfy the cultural expectations for their gender role, they overcompensate and behave in an exaggerated, stereotypic manner (Miller 1958; J. Whiting and B. Whiting 1975).

In the father-absence literature, analyses of both ecological and psychodynamic factors have been combined. The resulting model portrays a self-perpetuating system for a certain type of sex role socialization. Boys who are born into households headed by women do not have direct contact with adult males who can instruct them in the kinds of skills appropriate to their sex and so they lack direct indoctrination. These boys also may lack close social relationships with adult males, with the result that they do not identify actively at a psychological level with the male role. A further obstacle to developing a positive male self-identity is the fact that women in such social systems may devalue and denigrate males and maleness. The youths not only lack concrete models in their social environment for masculine behavior, but in symbolic ways their mothers and other adult females convey lack of confidence in men in general (Rohrer and Edmonson 1960; Pettigrew 1964; Hetherington 1972).

Children learn many things in the absence of direct, conscious instruction by others. The foregoing discussion of the absence of adult role models for boys illustrates a case in which children are hypothesized as drawing certain conclusions about how to behave as a result of being reared in a particular type of household. Such "conclusions" need not be conscious.

The sex role-training perspective of sex differences has led to the suggestion that if contraception allows women to restrict the number of years they spend in reproduction and child tending, a situation largely

confined to modern industrial nations, then for most purposes women and men can assume interchangeable roles (Lancaster 1976). As machines continue to relieve humans of hard physical labor, the male monopoly of certain types of work is expected to disappear. Fundamental to this point of view is the idea that except for obvious reproductive differences between the sexes, males and females are essentially the same. Remove the constraints of reproduction (or reduce them to a minimum) and sex role differentiation will disappear.

SEX DIFFERENCES IN PREPARED LEARNING

The prepared learning view contrasts with the social learning of sex role orientation described above. It is not opposed to all aspects of the training model but it invokes a different set of assumptions about the consequences of reproductive differences between the sexes by considering selective forces that have operated on humans in their evolutionary past.

Studies with laboratory animals and research on pathological development in humans support the idea that during fetal development sex-specific hormones act on the central nervous system of male and female fetuses. As a result, the sexes are differentiated at birth with respect to certain types of behavior. Though boy and girl babies are born equally ignorant, they may display different predispositions for learning, even under the same environmental influences (Stratton 1982). This view is based on observations of laboratory animals in which sexually differentiated behaviors are observable at birth or shortly thereafter. From these have come the conclusion that "learning" as it is usually understood has played little or no role in accounting for the differences. Sex-differentiated behaviors have been observed in higher primates that were reared in captivity and in isolation from other conspecifics from which learning might take place (Gray and Buffery 1975). Reasoning from the animal evidence has led investigators to assume that humans, though relying on postnatal learning to a greater extent than other species, are likely to be similarly organized. Even more convincing evidence of prenatal sex differentiation of the central nervous system has come from published studies of sex differences in brain anatomy (Gorski et al. 1978; Jacobson et al. 1980).

Concomitantly, recent studies of child behavior in many societies report that, in certain ways, girls and boys are different. Boys, for

example, tend to show more competitive behavior and a rougher physical manner of play. Boys show more interest in dominance interactions, and, increasingly as they mature, they sort themselves out into same-sex peer groups where they can find like-minded playmates. Girls have a quieter behavior with less energetic displays (Cronin 1980; Omark et al. 1980; Vaughn and Waters 1980). They pick up language at earlier ages than do boys, and, perhaps as a consequence, they gravitate more to adults and into a social environment that places more stress on conformity to adult rules than do the typical surroundings of boys, which include primarily other boys. (See Chapter 4 for a discussion of sex differences in what children pay attention to.)

These different behavior profiles, which show up in children from cultural groups with different values and standards of behavior, lead to the surmise that many of the nonsexual, nonreproductive behaviors of humans are influenced by the same selective forces that operate on fitness. An interpretation of the adaptive advantages of the assertiveness and competition so routinely seen in male-male peer interaction would be that these behaviors are "in place" because of their eventual payoff in reproductive terms. Young men who distinguish themselves in combat or in ritual games look good to young women, and young men who hunt well or show the physical stamina to work hard look attractive to the parents of eligible young women.

This idea has not met with wholehearted acceptance in all social science circles (Sahlins 1976; Chapter 3). The reasons for suspicion and rejection of such assertions are not difficult to understand. Western notions value highly the inherent integrity of the individual and take as a given the ability of the individual to rise above his/her circumstances. In this context, research that includes an irremedial biological given (such as sex or some other congenital or constitutional factor such as race) has been suspect on the grounds that it can or will promote biological reductionism.

Social scientists are particularly uneasy when it comes to the contribution of nonexperiential factors in accounting for individual behavior, for the social science paradigm is premised upon the notion that the environmental component in learning is the most significant. Most data of the social sciences come from empirically observable phenomena, and research designs are geared to recording and quantifying extant events. Therefore, the assertion that differences in behavior are not exclusively the product of learning is avoided on two grounds. In the first place, it conflicts with humanistic and philosophical values of

Western culture. In the second place, it opens up a conceptual "black box" wherein the conventional means of data collection can not be deployed.

Another black box exists for social scientists who contemplate the contribution of biological factors to human sex differences. If sex-differentiated behavior is not "learned" in the usual sense, then how can we understand it? Worse yet, if some behavioral predispositions are prior, then are they malleable? How can we, for example, change sex-differentiated behavior and perhaps interactions between the sexes if girls and boys behave according to a regimen not under environmental influence?

In 1975 E. O. Wilson published *Sociobiology*, a long-overdue account of modern evolutionary theory and its explanation for the adaptive function of both the form and the behaviors of many different species of vertebrates and invertebrates. A smaller portion of the book deals with human behavior from the point of view of the kinds of selective pressures that must have culminated in our present human capabilities. Wilson reasoned that selection would have operated on humans much as it operated on other higher mammals and primates. For all species, broad classes of behavior became intelligible when it was understood that organisms were adapted primarily for reproduction. In species where the reproductive roles of the sexes are highly specialized, as in the case of mammals, theory predicts that males and females will be selected to perform rather different behaviors.

Sociobiology attracted a great deal of attention and controversy, yet many of the ideas contained in it had been current in biological and zoological circles since the 1960s. The difficulty for sociobiology came in the presumption that human behavior could be interpreted in the same manner as the behavior of nonhumans. The alternative position had always been that *Homo sapiens* was unique in the animal kingdom in the unprecedented size and complexity of the brain and in the development of culture. Calling culture "man's extra-somatic basis of adaptation," social scientists built a conception of human cultural variation that stressed that culture was learned and highly arbitrary.

Probably the single most important outcome of the application of evolutionary theory to understanding human behavior was that it forced a telescopic view of human diversity. In the case of scientists working in the area of socialization and sex role acquisition, the evolutionary viewpoint caused people to realize that an overly myopic focus on the proximate causes of behavior could obscure an underlying behavioral

structure. Once the existence of such a structure was postulated, and the suggestion was made that the sexes are differently structured (with regard to some classes of behavior), the door was opened to the possibility that individuals of different sex could be expected to perform differently, even under conditions of identical environmental stimulus.

In order to answer the question, How does socialization produce differences in the behavior of males and females?, we need to be clear about the sources of our inferences. In other words, what kinds of factors produce sex-differentiated behavior and what place does socialization play among them? The prepared learning approach assumes that socialization for sex role is but one element in a series of events that humans experience. Socialization for sex role applies more narrowly to the way in which children learn the roles of adult males and females.

Several sources of inference help us understand how girls and boys emerge from infancy into childhood with recognizably distinct behavioral styles. The asymmetry of the sexes in reproductive function and its implications for the way in which natural selection has influenced behavior in the sexes seem an essential starting point. Issues at this level of remove from socialization may be thought extraneous to actual influences on girls and boys. However, the prepared learning model considers that, in addition to reproductive function, the sexes also differ with regard to their underlying predisposition to learn. This forces us to look on the socialization experience not only as "what children are taught" but also "what children choose to learn." This perspective introduces the larger evolutionary and biological context within which sex role socialization operates.

ASYMMETRY OF REPRODUCTIVE ROLES

At the most basic level are the different biological roles played by the sexes. In higher mammalian species, the reproductive roles of the sexes are most distinct. The female nurtures the fetus internally at substantial metabolic cost, births the infant, and then lactates for a sustained postnatal period. The mother's role is not limited to the supply of nutrients, for she is a source of warmth, protection, and instruction for a significant time period in the life of her offspring. In some species of higher mammals, the male plays no role in the nurturing of young beyond that necessary for conception. Other species show an active male parental role; examples are found in a few prosimian species and in the canids, beavers,

gibbons, and humans. In many other mammals, including a primate such as the baboon and some of the great cats, males serve a protective function for all the young of the social group, some of whom are their offspring.

It is possible for the significance of the reproductive difference between the sexes to be overlooked. It is so basic that it is easy to assume that it is limited to the tasks of reproduction and that it need have no relevance to other aspects of behavior that are unrelated to copulation, reproduction, and nurturing of young. For example, since in higher mammals females make the heaviest energetic commitment to reproduction, it is females who limit the rate of reproduction. No matter how many males are available, the number of offspring that can be conceived, gestated, birthed, and nursed is limited by the number of females of reproductive age who are physiologically capable of mothering. This condition has been interpreted to mean that, relative to males, females need not worry themselves unduly about how to become inseminated. They can rest assured that natural selection will produce males who will actively seek them. Human scientists, considering the strategies the sexes have been forced to evolve over the eons, can reason that female animals on the average should show less of the masculine urgency and competitiveness in dealings with conspecifics.

The logical outcome of this asymmetry in reproductive role is that natural selection has favored males who can best compete with other males in gaining the sexual cooperation of females. Since humans represent a species that takes such a long time to mature, and since the kinds of skills that characterize an adult take years for an individual to consolidate, one can expect that to the extent this holds, males would be expected to show greater interest in competitive interactions and dominance strivings with other males.

Natural selection has favored a different strategy in females. In the first instance, since human females, like females of other higher mammalian species, make the greatest investment in reproduction, we can expect that females in their parental roles will have been under selective pressure in favor of greater attentiveness to offspring and greater willingness to maintain close proximity to offspring. Various behaviors of a more obvious and proximate sort would be included here: feeding, tending, protecting, monitoring, and socializing offspring. In other ways this view predicts that human females will have undergone selective pressure for what might be called "sociability," or perhaps better stated "selective sociability."

An argument could be made for the notion that the sociability preferences of females are "in place" ultimately because of their relationship to the nurturing of offspring. But to understand the kinds of selective forces on human females only in terms of their immediate consequences for the survivorship of young is to miss an important point. Long-term studies of nonhuman primates and other mammals show that lineages of females constitute the social nucleus of many group-living species (Koyama 1970; Eaton 1976; Hrdy 1981; Daly and Wilson 1983). The fitness of females for millions of years of mammalian evolution has been dependent upon social skills and interaction with other females (typically their kin), though studies that reveal the significance of female-female and female-other interactions have only recently been conducted. Studies by Jeanne Altmann (1981), Sarah Hrdy (1979, 1981), and Jim McKenna (1979) show the extent to which a female's position in a female hierarchy can affect her diet, fertility, and eventually her fitness (see Chapter 3). Coalitions of females, often three or more generations deep, cooperate within the membership and compete with other female lineages for various resources such as rights to drinking water, preferred sleeping places, and the like. A result of within-coalition cooperation and extra-coalition competition is that lineages of females become ranked in a dominance hierarchy. Sociability is thus highly selective.

Research on free-ranging primates has shown the reproductive consequences of such coalitions. Among the yellow baboons of Kenya, long-term studies of the behavior of individual animals that are troop members show that female members of high-ranking coalitions have many advantages (Altmann 1981). They can displace lower-ranked females from desirable feeding places and can drink first among females when the troop moves to a watering place. This advantage is not always of great moment but it becomes so when drought has reduced the water supply below that necessary to sustain all troop members, or when the troop realizes that predators are near the watering place. In this case, the goal is to drink and run, before the predator can draw too close.

Higher-ranking females, probably because of their better diet and less stressful life, enter estrus several months sooner than lower-ranking females, with the result that they potentially will produce more offspring. Further, higher-ranked females are better able to time their estrus so that birth and weaning times coincide with seasons in which the most suitable kinds of forage are available for weanlings. Lower-ranked females are more likely to birth and wean offspring later and in less favorable

ecological circumstances, with the result that rates of infant mortality are higher (Altmann 1981).

The concept of selective sociability is relevant in this way: Females have prolonged contact with their own offspring. The relationship is longer and more intense than the relationship that males have with offspring. Females behave as if they have longer memories for kin relations than do males, as indicated by the fact that females interact preferentially with mothers, sisters, half-sisters, daughters, and daughters' daughters. Most primate females, including hominid females in our evolutionary past, have been rewarded for paying attention to bonds with other females and for their ability to maintain complex interactions with other females. Selective sociability is not limited to positive, nurturing behaviors but incorporates hostile, competitive behaviors designed to protect a given female's position against other female challengers. Females that successfully nurture their young leave more offspring in the next generation than females that are less willing to tend and feed dependent young for long periods. Additionally, in species such as *Homo sapiens* in which the male helps in parenting the young, natural selection will favor females who are careful about their choice of mate; a good choice will help more of the young survive. When sex role is conceived in this fundamental manner, it becomes apparent that extensive systems of behavior by males and females are potentially affected by natural selection.

CONNECTIONS BETWEEN REPRODUCTIVE INTERESTS AND BEHAVIORAL PREDISPOSITIONS

The discussion above suggests that the sexes have been distinguished along two dimensions: interest in sexual competitiveness and interest in long-term social relationships. Earlier mention was made of evolutionary biologists' premise that all functions of an organism relate in some way to reproductive ones. The basis of this rather extreme reductionism is that natural selection can work only on individuals. Individuals who do not reproduce themselves (or contribute to the survival of close relatives) stand no chance of having their characteristics transmitted to future generations. Given the reproductive asymmetry between the sexes in all mammals, generally, and in the prolongation of juvenile dependence in humans, specifically, there is the potential for a certain "continental divide" in the behavioral terrain traversed by the sexes.

The reproductive interests of males have been seen to be furthered by the competitive behaviors and preferences that males show in childhood play. A number of studies give empirical confirmation of such a characteristic style in boys (Omark et al. 1980). It remains to outline the same relationship between the reproductive interests of females and the kinds of behavioral schema observable in young girls, schema that may represent preadaptations to a long-term social strategy.

Evidence exists to support such an argument, but the reasoning involves a more complex and subtle sequence of behaviors in the case of females as opposed to males. The difference is related to the difference between coitus (the *sine qua non* for males) and gestation-lactation-rearing (the *sine qua non* for females). While it is true that each sex needs the other, the division of reproductive labor is such that the male responsibility for his posterity is physically satisfied by coitus. In a physiological sense, this is "all the male can do" toward furthering conception, and coitus is achieved in a short time. (We are leaving aside the issue of male parental investment, discussed in Chapter 3. Male involvement affects the probability of infant survival, but does not pertain to the current discussion.) However, competitive interaction with other males and successful courtship displays to females are directly related to whether or not a youth will be in a social position to impregnate a receptive woman.

A woman's physiological responsibility to her posterity is not satisfied in any so direct or momentary a manner as is a male's to his. Indeed, it is not nearly so easy to isolate female behaviors that promote a woman's genetic continuity. Her "success" in this regard is measurable in the number of offspring she rears to sexual maturity (the same as for males), but the behaviors necessary to bring this about lie in the minutiae of hourly, daily, and yearly interactions with those offspring and with other group members whose behavior can affect the offspring. Where should one look for determinants of success?

If the argument that women go for a strategy based on sustaining long-term social relationships is correct, then one would predict the following characteristics. Girls should remain physically close to their mothers and to other females with whom the mother associates. (In many societies, these are likely to be the mother's female kin.) Girls should be attentive to the social interaction of adults and responsible to the social conditioning dealt out by the significant adults in her early years, since the same people are likely to be physically present and socially relevant when girls are reproductively mature themselves. They should be

relatively tractable or easily socialized. A girl's close proximity to her mother will mean that aversive behavior on her part toward the mother will be noticeable. If a girl is persistently offensive, her mother may drive her away from the matrilineal enclave, an eventuality that would not promote the girl's welfare. This reasoning leads to the prediction that girls will find it easier than boys to learn the interpersonal tasks of socialization. Additionally, girls should find the society of kindred attractive and rewarding. We need not posit a sixth sense that allows them to detect genetic relatives; rather they should be sensitive to the social lead or guidance of their matrikin.

Several studies point up the greater average tractability of girls; however, these tendencies obscure the considerable variation within the sexes. Behavior observation research on children shows that girls commonly comply with parental requests, whereas similar overtures by parents of boys are more likely to be met with negativism and refusal (Minton et al. 1971; Fagot 1974, 1978a, b). A cross-cultural comparison of children's behavior shows more prosocial behavior on the part of girls (employing social rules to justify behavior) as contrasted with more egocentric behavior by boys (behavior in the service of the self). This suggests that girls are more aware of the influence of social context on their own behavior and the behavior of others, and that they use this knowledge to achieve their goals. Boys resort more directly to unvarnished attempts at assertion and dominance in gaining their objectives (J. Whiting and B. Whiting 1975). Similar findings show up in a study of the social behavior of East African girls and boys (Ember 1973).

Some primate studies indicate that male infants and juveniles wean themselves at earlier ages from close physical proximity to the mother. One suggested mechanism is the greater number of aversive behaviors (pinches, bites, hits) directed at the mothers by male infants and the greater readiness of the mothers to rebuff the close approach of the male offspring except when nursing them (Jensen et al. 1973). Among many primates, mothers may favor female offspring, but in many human societies social and economic practices have changed the odds so that male children more often are favored (see Chapter 7).

CONCLUSIONS

The two views of sex role differentiation in humans stem from different scientific traditions. The sex role-training approach draws on

social learning theory, developmental psychology, and an anthro - pological perspective on the requirements posed by social institutions for child socialization. This school of thought considers sex role as one of several learning accomplishments that each new member of society must master. The focus is on postnatal experience, individual maturation, and the implicit and explicit contingencies that shape life in diverse social situations. Social scientists who work in this tradition are likely to view behavior and social role differences between the sexes as primarily acquired and therefore subject to change.

These scholars concede that the reproductive capabilities of the sexes pose different limitations on the nature of the social roles the sexes can fulfill. They expect, however, that under new social, economic, technological, and ideological conditions, the biological differences will fade in significance. The sexes will become functionally interchangeable since, for example, men no longer specialize in roles requiring physical strength or prowess in combat and women no longer expect to spend 20 to 30 years of their adult lives in childbearing and -rearing.

The prepared learning explanation for sex role socialization differences draws on concepts from zoology, evolutionary biology, and ethology. This approach considers that understanding the contemporary behavior of a species requires study of the selective forces that have operated on individuals of the ancestral population. Scholars in this tradition look to the species' evolutionary past for insights into adaptations that would have been favored by selection. The logic behind this apparently reckless disregard of good contemporaneous data about human sex roles is that the forms of social organization, economy, and levels of population density with which *Homo sapiens* now lives are extremely recent innovations in comparison with the tens of thousands (some say hundreds of thousands) of years humans have lived by foraging and at extremely low population levels.

Rather than taking at face value the fact that children undergo specific experiences that bear on their performance as men and women, evolutionists think of each child as partially preprogrammed to carry over behaviors appropriate in another era. Children learn, but they choose what to learn in concert with behavioral schema that have been selected for in past generations (Blurton Jones 1982). Evolution, of course, is an ongoing process. Indeed, if the theory is taken seriously, it implies that the changed pressures on today's males and females will affect the programming for tomorrow's infants.

As is true for any research paradigm, the theoretical assumptions that are necessary at one level to build and test models become obstacles to

testing ideas posed from another level outside the paradigm. So there is a potential for the theorists of the two "sides" to continue to operate in separate divisions, talking past each other with separate concepts and vocabulary. Happily, there are signs of rapprochement. Medical and psychological researchers are opening up a new field of neonatology and have uncovered many attributes of infant behavior that represent relatively structured behavior sequences that are seen so early in life that they cannot be tied to postnatal learning. Research on the relationship of sex to these infant behaviors will tell us more about the areas of behavior that are sex differentiated and that may enter into more complex behaviors that we think of as "feminine" or "masculine" in style.

Child development researchers have used the technique of systematic behavior observation for many decades. As interest grows in more "micro" levels of behavior observational analysis, researchers are able to detect much evidence that the child is a major contributor to his/her own socialization. Variables of sex as well as of individual temperament are being evaluated for the role they play in the child's technique for dealing with experience.

We know that the chief distinction of humans is their great capacity for change and for learning. Research in coming years is not likely to contradict this assumption, but we will have more information on why it is that people are able to learn what they do and what kinds of psychological and psychobiological structures underlie human learning readiness. These studies will help us develop more accurate models of the range of sex roles open to human societies and the advantages and penalties that these structures impose upon individuals.

REFERENCES

Altmann, J. 1981. *Baboon Mothers and Their Infants.* Chicago: University of Chicago Press.

Arganian, M. 1973. "Sex Differences in Early Development." In *Individual Differences in Children,* edited by J. C. Westman, pp. 45-63. New York: Wiley.

Bandura, A. 1977. *Social Learning Theory.* Englewood Cliffs, NJ: Prentice-Hall.

Barry, H. III, M. K. Bacon, and I. Child. 1957. "A Cross-Cultural Survey of Some Sex Differences in Socialization." *Journal of Abnormal and Social Psychology,* 55:327-32.

Biller, H. B. 1970. "Father Absence and the Personality Development of the Male Child." *Developmental Psychology,* 2:181-201.

___. 1971. *Father, Child and Sex Role.* Lexington, MA.: D. C. Heath.

___. 1976. "The Father and Personality Development: Paternal Deprivation and Sex Role Development." In *The Role of the Father in Child Development,* edited by M. Lamb, pp. 89-156. New York: Wiley.

Blurton Jones, N. G. 1982. "Origins, Functions, Development and Motivations: Unity and Disunity in the Study of Behavior." *Journal of Anthropological Research,* 4:333-49.

Brown, J. K. 1973. "The Subsistence Activities of Women and the Socialization of Children." *Ethos,* 1:413-23.

Cronin, C. L. 1980. "Dominance Relations and Females." In *Dominance Relations: An Ethological View of Human Conflict and Social Interaction,* edited by R. Omark, F. Strayer, and D. Freedman, pp. 299-318. New York: Garland STPM Press.

Daly, M. and M. Wilson. 1983. *Sex, Evolution and Behavior,* 2nd ed. Boston: Willard Grant Press.

D'Andrade, R. 1966. "Sex Differences and Cultural Institutions." In *The Development of Sex Differences,* edited by E. E. Maccoby. Stanford, CA: Stanford University Press.

Draper, P. 1976. "Social and Economic Constraints on !Kung Childhood." In *Kalahari Hunter Gatherers,* edited by I. DeVore and R. Lee. Cambridge, MA: Harvard University Press.

Eaton, G. G. 1976. "The Social Order of Japanese Macaques." *Scientific American,* 235:96-106.

Edgerton, R. B., ed. 1971. *The Individual in Cultural Adaptation.* Berkeley: University of California Press.

Ember, C. 1973. "Feminine Task Assignment and the Social Behavior of Boys." *Ethos,* 1:424-39.

Fagot, B. 1974. "Sex Differences in Toddlers' Behavior and Parental Reaction." *Developmental Psychology,* 10:554-58.

Falbo, T. 1980. "A Social Psychological Model of Human Sexuality," In *The Psychobiology of Sex Differences and Sex Roles,* edited by J. E. Parsons, pp. 131-42. New York: McGraw-Hill.

Ginsburg, H. J., and S. M. Miller. 1982. "Sex Differences in Children's Risk Taking." *Child Development,* 53:426-28.

Gorski, R. A., J. H. Gordon, J. E. Shryne, and A. M. Southam. 1978. "Evidence for a Morphological Sex Difference Within the Medial Preoptic Areas of the Rat Brain." *Brain Research,* 148:333-46.

Gray, J. A., and A. W. H. Buffery. 1975. "Sex Differences in Emotional and Cognitive Behavior in Mammals Including Man." *Acta Psychologica,* 35:89-111.

Green, R. 1974. *Sexual Identity Conflict in Children and Adults.* New York: Basic Books.

Hetherington, E. M. 1972. "Effects of Father Absence on Personality Development in Adolescent Daughters." *Developmental Psychology,* 7:313-26.

Hrdy, S. B. 1979. "Infanticide Among Animals: A Review, Classification, and Examination of the Implications for the Reproductive Strategies of Females." *Ethology and Sociobiology,* 1:13-40.

___. 1981. *The Woman That Never Evolved* . Cambridge, MA: Harvard University Press.

Jacobson, C. D., J. E. Shryne, F. Shapiro, and R. A. Gorski. 1980. "Ontogeny of the Sexually Dimorphic Nucleus of the Preoptic Area." *Journal of Comparative Neurology*, 193:541-48.

Jensen, G., R. Bobbit, and A. Gordon. 1973. "Mothers' and Infants' Roles in the Development of *Macaca nemestrina*." *Primates*, 14:79-88.

Kohlberg, L. 1966. "A Cognitive Developmental Analysis of Children's Sex Role Concepts and Attitudes." In *The Development of Sex Differences*, edited by E. E. Maccoby. Stanford, CA: Stanford University Press.

Koyama, N. 1970. "Changes in Dominance Rank and Division of a Wild Japanese Monkey Troop in Arashiyama." *Primates*, 11:335-91.

Lamb, M. E. 1981. *The Role of the Father in Child Development*, 2nd ed. New York: Wiley.

Lancaster, J. B. 1976. "Sex Roles in Primate Societies." In *Sex Differences: Social and Biological Perspectives*, edited by M. Teitelbaum, pp. 22-61. Garden City, NY: Anchor Press/Doubleday.

Lott, D. F., and B. L. Hart. 1977. "Aggressive Domination of Cattle by Fulani Herdsmen and in Relation to Aggression in Fulani Culture and Personality." *Ethos*, 5:174-86.

Lynn, D. B. 1974. *The Father: His Role in Child Development*. Monterey, CA: Brooks/Cole.

Maccoby, E. E., and C. M. Jacklin. 1974. *The Psychology of Sex Differences*. Stanford, CA: Stanford University Press.

McKenna, J. J. 1979. "Aspects of Infant Socialization, Attachment, and Maternal Caregiving Patterns Among Primates: A Cross-Disciplinary Review." *Yearbook of Physical Anthropology*, 22:250-86.

Meyer-Buhlberg, H. F. L. 1980. "Homosexual Orientation in Women and Men: A Hormonal Basis?" In *The Psycho-Biology of Sex Differences and Sex Roles*, edited by J. E. Parsons, pp. 105-30. New York: McGraw-Hill.

Miller, W. B. 1958. "Lower Class Culture as a Generating Milieu of Gang Delinquency." *Journal of Social Issues*, 14:5-19.

Minton, C., J. Kagan, and J. A. LeVine. 1971. "Maternal Control and Obedience in the Two-Year Old." *Child Development*, 42:1873-94.

Minturn, L., and W. W. Lambert. 1964. *Mothers of Six Cultures: Antecedents of Child Bearing*. New York: Wiley.

Murdock, G. P. 1949. *Social Structure*. New York: Macmillan.

Mussen, P. H. 1973. *The Psychological Development of the Child*. Englewood Cliffs, NJ: Prentice-Hall.

Omark, D., F. Strayer, and D. Freedman, eds. 1980. *Dominance Relations: An Ethological View of Human Conflict and Social Interaction*. New York: Garland STPM Press.

Pettigrew, T. F. 1964. *A Profile of the Negro American*. Princeton, NJ: Van Nostrand.

Rohrer, H. H., and M. Edmonson. 1960. *The Eighth Generation*. New York: Harper.

Romney, A. K., and R. Romney. 1965. *The Mixtecans of Juxtlahuaca* . New York: Wiley.

Sahlins, M. 1976. *The Use and Abuse of Biology.* Ann Arbor: University of Michigan Press.

Slovic, P. 1966. "Risk-Taking in Children: Age and Sex Differences." *Child Development*, 37:169-76.

Stratton, P., ed. 1982. *Psychobiology of the Human Newborn.* New York: Wiley.

Vaughn, B. E., and E. Waters. 1980. "Social Organization Among Preschool Peers: Dominance, Attention and Sociometric Correlates." In *Dominance Relations: An Ethological View of Human Conflict and Social Interaction*, edited by D. P. Omark, F. Strayer, and D. G. Freedman, pp. 359-80. New York: Garland STPM Press.

Whiting, B., and J. W. M. Whiting. 1975. *Children of Six Cultures.* Cambridge, MA: Harvard University Press.

Whiting, J. W. M., and B. B. Whiting. 1975. "Aloofness and Intimacy of Husbands and Wives: A Cross Cultural Study." *Ethos*, 3:183-207.